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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|----------------------------|-------------|----------------------|---------------------|-------------------------|
| 10/696,275 | 10/29/2003 | Michael L. Albu | 1682DI | 6499 |
| 24959 | 7590 | 05/25/2004 | | EXAMINER |
| PPG INDUSTRIES INC | | | | CARRILLO, BIRI SHARIDAN |
| INTELLECTUAL PROPERTY DEPT | | | | |
| ONE PPG PLACE | | | ART UNIT | PAPER NUMBER |
| PITTSBURGH, PA 15272 | | | 1746 | |

DATE MAILED: 05/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

| | |
|-------------------------------|------------------|
| Application No. | ALBU ET AL. |
| 10/696,275 | |
| Examiner Sheridan Carrillo | Art Unit 1746 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extension of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 10292003.
2a) This action is FINAL. 2b) This action is non-final.
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 15-24 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) Claim(s) _____ is/are allowed.
6) Claim(s) 15-24 is/are rejected.
7) Claim(s) _____ is/are objected to.
8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03172004 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____.
5) Notice of Informal Patent Application (PTO-152)
6) Other: _____

DETAILED ACTION

Specification

1. Applicant is required to update the status of all non-provisional U.S. patent applications. U.S. patent application Serial No. 09/916,104, filed July 26, 2001 is now U.S. Patent 6673263.
2. It is suggested applicant change the title since the instant claims are directed to the method. The examiner suggests "A method for paint detackification using chitosan".

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 15-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is indefinite because it is unclear what is meant by "contacted said oversprayed paint particles with a water system". It is unclear what is meant by a water system. Does a water system mean a spray, hose, or conduit? In claim 18, "said flocculated oversprayed paint particles" lacks positive antecedent basis. Claim 19 is indefinite because it is unclear what is meant by a "solvent-based paint denaturant system". Claim 19 is further indefinite because it is unclear whether the dispersion is between the organic solvent and water or whether the dispersion is between the organic solvent, water, chitosan, and metal salt. Additionally it is unclear how the step of

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contacting the oversprayed paint results in the collection of the oversprayed paint. It is also unclear what components are present in the organic and aqueous phase since no mention is made of the chitosan, the metal salt and the organic solvent after the dispersion phrase separates. Claim 23 is indefinite because of the phrase "capable of".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka (JP 6-114210).

In reference to claims 15 and 16, Tanaka teaches a method of flocculating surplus paint mists discharged into circulating water in a wet paint booth by contacting with an aqueous solution comprising polyglucosamine (chitosan) and a metal salt (paragraphs 8 and 11. In reference to claims 17-18, refer to paragraphs 1, 3-4, and 38-39.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

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8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 19-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (JP 6-114210) in view of Brown et al. (5223141).

Tanaka teaches the invention substantially as claimed with the exception of the phrase separation. In paragraph 1, Tanaka teaches the need to separate the paint mist from the water in order to facilitate easy collection of the paint mist.

Brown et al. teach a method for the removal and recovery of paint overspray in a water wash spray booth. The method uses a circulating agitated dispersion of an organic solvent component in water which collects the paint overspray. The dispersion

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is permitted to phrase separate into an organic and an aqueous phase. The organic phase is further treated to separate the paint solids from the organic solvent in order that the organic solvent can be recycled and reused and the paint solids can be recovered for further use.

It would have been obvious to a person of ordinary skill in the art to have modified the method of Tanaka et al. to include phase separation as taught by Brown et al. for purposes of recycling and reusing both the organic solvent and the paint solvents. Further, one of ordinary skill in the art would have recognized the economical advantages of recycling and recovering both solvent and paint during the detackification process.

In reference to claim 20, limitations are met by Tanaka since Tanaka teaches the same composition and therefore one of ordinary skill in the art would reasonably expect a decrease in the time at which phase separation occurs. Additionally, one of ordinary skill in the art would have reasonably expected a decrease in time for phase separation to occur since Tanaka teaches chitosan as a flocculating agent which effectively separates paint mist from water. In reference to claim 21, refer to paragraph 11. In reference to claims 22-23, refer to paragraph 18.

11. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka (JP 6-114210) in view of Brown et al. (5223141) as applied to claims 19-23 as described in paragraph 10 above, and further in view of Harpel et al. (4504395).

Tanaka in view of Brown et al. teach the invention substantially as claimed with

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the exception of the bentonite clay. Harpel et al. teach bentonite clays as an effective means for detackifying water based paints (col. 2, lines 39-41, col. 3, lines 15-19).

It would have been obvious to a person of ordinary skill in the art to have modified the method of Tanaka et al. to include bentonite clays, as taught by Harpel et al., for purposes of enhancing paint detackification. Further, it is *prima facie* obvious to combine two compositions each taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the same purpose. See *In re Kerkhoven*, 205 USPQ 1069, 1072.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kogyo et al. teach a paint absorbable material comprising chitosan. Ajinomoto teaches chitosan as a flocculant. Albu et al. teach paint detackification using chitosan.
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharidan Carrillo whose telephone number is 571-272-1297. The examiner can normally be reached on Monday-Friday, 6:00a.m-2:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sharidan Carrillo
Primary Examiner
Art Unit 1746

bsc

SHARIDAN CARRILLO
PRIMARY EXAMINER

